Radioactive Source - Magic

AP2668-001 Electronic Radioactive Source Simulator

Description:

The 'MAGIC' RADIOACTIVE SOURCE has been specially designed for use in schools where policy prevents radioactive sources from being stored or used close to children.

This small instrument is very simple to operate, is very reliable and is microprocessor controlled. The program contains the mathematics to simulate a 'true to life' radioactive source behaviour. Apart from the very important safety aspect, to save a great deal of classroom time, this unique instrument was designed to assist in the performance of some experiments that are difficult to grasp when taught using conventional methods.

Length: 175mm	Width: 100mm	Height: 37mm	Weight: 320g

Supplied With Experiment Sheets:

The fundamental operating instructions can never be mislaid because they are in the form of a label fixed to the rear face of the instrument. The instrument is programmed to behave like a Radioactive Source and two different types of source are simulated:

- **Very long half life type:**
  The source appears to be radiating particles and the display appears to be a Geiger Counter that indicates the same reading that would be found on a real Geiger Counter at a certain distance from a real source. These 'Geiger Counter' readings are actually random numbers within a window of maximum and minimum. This set of random numbers is useful to be used in mathematics and in theories of probabilities.

- **Very short half life type:**
  The display in this case shows the number of particles remaining in the source. Initially the source contains 1.000×10^{20} particles. Eventually, after about 45 minutes, the number of particles remaining reaches one last particle. The time when that last particle will go is indeterminate. The elapsed decay time is also displayed in minutes and seconds for graphs to be plotted which demonstrate and explain the concept of half-life. When the source is exhausted, or at any other time, it can be 'replenished', ready for the next experiment, by a simple press on a button.

- **Audible monitoring:**
  The 'clicking' sound associated with the counting of a Geiger Counter can be turned ON or OFF as desired.

- **Fun to use:**
  The "Magic" concept makes the equipment fun to use and the results taken by the student actually work properly. This aspect improves the confidence level of the student.

Power Input:

12V.AC/DC 50/60Hz. Two 4mm sockets are provided on the end of the instrument for connection by banana plugs to a standard school power pack.

A socket is provided also for a 240/12V.AC. Plug Pak. Cat: PA4096-001

Designed and manufactured in Australia